

What Is Claimed Is:

1. A method for controlling an internal combustion engine in which a torque model is used with whose aid at least one torque actual value and/or at least one actuating variable of the combustion engine is calculated as a function of a setpoint input, the model including at least one basic variable that is determined under predefined standard conditions and which is corrected as a function of the actual setting of the internal combustion engine, this basic variable constituting an optimum torque, which is corrected by an efficiency for the conversion of the chemical into mechanical energy, wherein this efficiency is determined at least as a function of a variable characterizing the combustion center point and a variable characterizing the opening instant of a discharge-side gas-exchange valve.

2. The method as recited in Claim 1, wherein the efficiency is determined in addition as a function of the charge, in particular the fresh-air charge.

3. The method as recited in Claim 1 or 2, wherein, as variable characterizing the combustion center point, the deviation between an optimum ignition angle and an actual ignition angle is selected.

4. The method as recited in Claim 1, 2 or 3, wherein, as the variable characterizing the opening instant of the discharge-side gas-exchange valve, the adjustment angle of the camshaft is selected.

5. The method as recited in one of the preceding claims, wherein the efficiency is divided into a first partial efficiency and into a second partial efficiency, the first partial efficiency being determined as a function of the variable characterizing the combustion center point, and the

second partial efficiency as a function of the variable characterizing the opening instant of the discharge-side gas-exchange valve.

6. The method as recited in one of the preceding claims, wherein the actuating variable of the internal combustion engine is a setpoint ignition angle that is determined by inversion of the calculation formula for determining the efficiency.

7. A device for controlling an internal combustion engine, having a control device in which a torque model for the internal combustion engine is stored, with whose aid at least one instantaneous variable is ascertained and/or at least one actuating variable is determined from a setpoint input, at least one basic variable being provided within the framework of the model, which is established under standard conditions and which is corrected as a function of the deviation from these standard conditions, the basic variable being an optimum torque, which is corrected by an efficiency for the conversion of chemical into mechanical energy, wherein this efficiency depends on at least one variable characterizing the combustion center point and a variable characterizing the opening instant of a discharge-side gas-exchange valve.

8. 21. A computer program having program code means for carrying out all the steps of any of the Claims 1 through 7 when the program is executed on a computer.

9. A computer program product having program-code means, which are stored on a computer-readable data carrier in order to carry out the method according to any of Claims 1 through 6 when the program product is executed on a computer.